

Day 1 Configurations

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- Create a Layer 3 Network, on page 6
- Configure the VRF Lite Extension, on page 12

Create a Layer 2 Network

Step 1 In NDFC, navigate to LAN > Fabrics, if you are not there already.

A page showing all of the configured fabrics appears.

Step 2 Double-click the Enhanced Classic LAN fabric that you created using the procedures provided in Configure the Enhanced Classic LAN Fabric.

The Fabric Overview page for that fabric appears.

- **Step 3** Click the **Networks** tab.
- **Step 4** Create the Layer 2 network.
 - a) In the Networks tab, click Actions > Create.



The Create Network window appears.

b) In the Create Network screen, enter the necessary information.

- A default name for the Layer 2 network is automatically generated in the **Network Name** field, but you can change it, if necessary.
- In the Layer 2 Only field, check the box to enable this option. This specifies that this network is Layer 2 only.
- In the VLAN ID field, enter a value to use for the associated VLAN, or click **Propose VLAN** to have NDFC propose a VLAN ID for your Layer 2 network, based on the available resources (the range is customizable in **Fabric Settings**).
- In the Network Template field, leave the default Network Classic option selected.

This is the correct template to use for the Layer 2 network.

• The gateway for a Layer 2 network resides outside of the fabric; therefore, the IP addresses in the **General Parameters** page are left empty.

| | | ? - × |
|---|---|-------|
| letwork Name* MyNetwork_30000 .ayer 2. Only | | |
| RF Name* NA Cross V Class D* 2000 Proces | a VLAN | |
| letwork Template* letwork_Classic > | — | |
| General Parameters Advanced | Example 192.2.3/24. Address for FHBP VP | |
| Interface IPv4 addr on active | example 192.0.2.2. Interface IP address on the active/institut device | |
| Interfece IDud odds on stonellar | | |

c) Fill in the remaining fields as necessary for your Layer 2 network, if necessary.

d) Click Create.

You are returned to the Networks tab for the Enhanced Classic LAN fabric.

Step 5 Add the network to an interface group, if necessary.

Interface groups are useful if you are trying to deploy a network to a group of interfaces.

a) In the **Networks** tab for the Enhanced Classic LAN fabric, click on the Layer 2 network that you just created, then click **Actions** > **Add to Interface Group**.

L

| Fabric | Fabric Overview - Access-Agg-Fab | | | | | | | | | | | | | |
|---------|----------------------------------|------------------------|------------------------|---------------------|----------------------|-------------|---|--|--|--|--|--|--|--|
| Overvie | w Switches Links | Interfaces Interface G | roups Policies Networl | ks VRFs Event Analy | rtics History Resour | ces Metrics | Actions ^ | | | | | | | |
| 8 | Network Name | VRF Name | IPv4 Gateway/Prefix | IPv6 Gateway/Prefix | Network Status | VLAN ID | Create | | | | | | | |
| | MyNetwork_30001 | NA | | | DEPLOYED | 2301 | Edit | | | | | | | |
| | MyNetwork_30000 | NA | | | • DEPLOYED | 2300 | Multi-Attach | | | | | | | |
| | MyNetwork_30003 | MyVRF_50001 | | | • NA | 2303 | Deploy | | | | | | | |
| | MyNetwork_30002 | default | | | DEPLOYED | 2302 | Import | | | | | | | |
| | | | | | | | Export Delete Add to Interface Group Remove from Interface Group | | | | | | | |

b) Select the interface group that you want to add, or click **Create Interface Group** to create a new interface group to add.

Add to Interface Group

| Selected Networks* | | |
|--------------------|---|------------------------|
| 1 network > | | |
| nterface Group* | | |
| IG | ~ | Create Interface Group |

For more detailed procedures on adding a network to an interface group, see Interface Groups in the *Cisco NDFC-Fabric Controller Configuration Guide*.

Step 6 Attach the network.

Once you've created the Layer 2 network, you can attach it to host-facing ports on the Access switch, which will then allow the VLAN on these trunk or access ports and also on the vPC/port channel/standalone ports between the Access and Aggregation switches.

Determine if you want to perform a quick attach or a multi-attach.

- If you want to perform a **quick attach**, where you will attach this network to the selected switches, follow these steps:
- a) In the Networks tab for the Enhanced Classic LAN fabric, double-click on the Layer 2 network that you just created.
- b) Click the Network Attachments tab.

c) Locate the switches with **aggregation** shown in the **Switch Role** column and click the boxes next to those switches.

| Netwo | letwork Overview - MyNetwork_30000 | | | | | | | | | | | | |
|---------------------|--|---------|-----------------|-------|--------|------------|-------------|-----|--------------|--|--|--|--|
| Overvie Note: Ac | Dverview Network Attachments VRFs Note: Access switches are not directly displayed, but are configured via aggregation switches. | | | | | | | | | | | | |
| Fill | er by attributes | | | | | | | | Actions ^ | | | | |
| | Network Name | VLAN ID | Switch | Ports | Status | Attachment | Switch Role | Fat | History | | | | |
| | MyNetwork_30000 | | fabric1-border2 | NA | • NA | Detached | aggregation | Acc | Edit | | | | |
| | MyNetwork_30000 | | fabric1-border1 | NA | • NA | Detached | aggregation | Acc | Preview | | | | |
| | | | | | | | | | Import | | | | |
| | | | | | | | | | Export | | | | |
| | | | | | | | | | Quick Attach | | | | |
| | | | | | | | | | Quick Detach | | | | |

- d) Click Actions > Quick Attach, then go to Step 7, on page 5.
 - If you want to perform a **multi-attach**:
- a) In the **Networks** tab for the Enhanced Classic LAN fabric, click on the Layer 2 network that you just created, then click **Actions** > **Multi-Attach**.

| Fabric C | bric Overview - Access-Agg-Fab Actions 🗸 💍 ? — 🗙 | | | | | | | | | | | |
|----------|--|---------------------|---------------------------|---------------------|---------------------|-------------|-----------------------------|--|--|--|--|--|
| Overviev | v Switches Links | Interfaces Interfac | e Groups Policies Network | s VRFs Event Analy | tics History Resour | ces Metrics | | | | | | |
| Filte | r by attributes | | | | | | Actions ^ | | | | | |
| | Network Name | VRF Name | IPv4 Gateway/Prefix | IPv6 Gateway/Prefix | Network Status | VLAN ID | Create | | | | | |
| | MyNetwork_30001 | NA | | | • NA | 2301 | Edit | | | | | |
| | MyNetwork_30000 | NA | | | DEPLOYED | 2300 | Multi-Attach | | | | | |
| | | | | | | | Deploy | | | | | |
| | | | | | | | Import | | | | | |
| | | | | | | | Export | | | | | |
| | | | | | | | Delete | | | | | |
| | | | | | | | Add to Interface Group | | | | | |
| | | | | | | | Remove from Interface Group | | | | | |

- b) Click the box next to each switch that you want to attach to the network, then click Next.
- c) Click the box next to each interface that you want to select, then select the interfaces using either **Bulk Paste** or **View Interfaces**.

| ulti-Attach of Networks | | | | | | - × |
|-------------------------|-----------------|-----------------|------------------|--------------|-------------------|-----------------|
| | (~ |) | | | (3) | |
| | Select S | witches | Select In | terfaces | Summary | |
| Select Interfaces | | | | | | |
| Filter by attributes | | | | | | Bulk Paste |
| | Network Name | Switch Name | Peer Switch Name | ToR Switches | Interfaces List 🕠 | Action |
| 8 | MyNetwork_30001 | fabric1-border1 | fabric1-border2 | Agg1,Agg2 | | View Interfaces |

• If you select **Bulk Paste**, enter the interfaces to be pasted in the **Interfaces List** area, then click **Save**.

- If you select **View Interfaces**, click the boxes next to the specific ports that you want to attach in the following screen, then click **Save**.
- d) In the Select Interfaces window, click Next.
- e) Make the necessary deployment selection in the next window, then click Save.

| Multi-Attach of Networks | | | | | - × |
|--|--------------------------------|-----------------------------|-----------------------------------|--------------------------------------|-----|
| | Select Switches | Select Inte |) erfaces | Summary | |
| Summary Networks Selected 1 | Devices Selected | Network Attachments 1 | Device Interface Association 4 | Device Interface De-Association 0 | |
| Deploy Later Proceed to Full Switch Depl Proceed to Individual Netwe | loy(Recommended) ork Deploy | | | | |

Step 7 Deploy the network.

In the Network Attachments window, select the networks that you just attached, then click Actions > Deploy.

| Network Overview - MyNetwork_30000 | | | | | | | | | | | | |
|--|-------|-----------------|---------|-----------------|-------|---------|------------|-------------|--------------|---|--|--|
| Overview Network Attachments VRFs Note: Access switches are not directly displayed, but are configured via aggregation switches. | | | | | | | | | | | | |
| | Filte | r by attributes | | | | | | | Actions ^ |) | | |
| | | Network Name | VLAN ID | Switch | Ports | Status | Attachment | Switch Role | Fat History | Ī | | |
| | | MyNetwork_30000 | 2300 | fabric1-border2 | NA | PENDING | Attached | aggregation | Acc Edit | | | |
| | | MyNetwork_30000 | 2300 | fabric1-border1 | NA | PENDING | Attached | aggregation | Acc | | | |
| | | | | | | | | | Import | | | |
| | | | | | | | | | Export | | | |
| | | | | | | | | | Quick Attach | | | |
| | | | | | | | | | Quick Detach | | | |

Step 8 When the recalculation process is completed, click **Deploy** and verify that the status shown in the **Config Status** column shows as **In-Sync**.

| De | reploy Configuration - Access-Agg-Fab ? × | | | | | | | | | | | | |
|----|---|----------------|-----------------|---------------|---------------|-------------|----------------|-------------------------------------|----------|---|--|--|--|
| | Filter by attributes | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | Network Name | Fabric Name | Switch Name | Serial Number | IP Address | Role | Network Status | Status Description | Progress | _ | | | |
| | MyNetwork_30000 | Access-Agg-Fab | fabric1-border2 | FDO22230TDY | 172.25.65.131 | aggregation | In-Sync | Config compliance sync completed | | | | | |
| | MyNetwork_30000 | Access-Agg-Fab | fabric1-border1 | FD022230BXL | 172.25.65.130 | aggregation | In-Sync | Config compliance sync completed | | | | | |
| | | | | | | | | | | | | | |

What to do next

Create a Layer 3 network using the procedures provided in Create a Layer 3 Network, on page 6.

Create a Layer 3 Network

A Layer 3 network can be in either a default or a custom VRF.

Before you begin

Step 1 Navigate to the Networks tab for the Enhanced Classic LAN fabric, if you are not there already.

a) In NDFC, navigate to LAN > Fabrics.

A page showing all of the configured fabrics appears.

b) Double-click the Enhanced Classic LAN fabric that you created using the procedures provided in Configure the Enhanced Classic LAN Fabric.

The Fabric Overview page for that fabric appears.

- c) Click the Networks tab.
- **Step 2** Create the Layer 3 network.
 - a) In the Networks tab, click Actions > Create.

| Fabrio | Fabric Overview - Access-Agg-Fab | | | | | | | | | | | | |
|--------|--|----------|---------------------|---------------------|----------------|---------|-----------------------------|--|--|--|--|--|--|
| Overv | Overview Switches Links Interfaces Interface Groups Policies Networks VRFs Event Analytics History Resources Metrics | | | | | | | | | | | | |
| E | ilter by attributes | | | | | | Actions ^ | | | | | | |
| | Network Name | VRF Name | IPv4 Gateway/Prefix | IPv6 Gateway/Prefix | Network Status | VLAN ID | Create | | | | | | |
| | MyNetwork_30001 | NA | | | • DEPLOYED | 2301 | Edit | | | | | | |
| | MyNetwork_30000 | NA | | | • DEPLOYED | 2300 | Multi-Attach | | | | | | |
| | | | | | | | Deploy Import | | | | | | |
| | | | | | | | Export | | | | | | |
| | | | | | | | Delete | | | | | | |
| | | | | | | | Add to Interface Group | | | | | | |
| | | | | | | | Remove from Interface Group | | | | | | |

The Create Network window appears.

- b) In the Create Network screen, click the General Parameters tab and enter the necessary information.
 - Change the name for the Layer 3 network in the Network Name field, if necessary.

The entry in the Network Name field is auto-populated but can be changed, if necessary.

• In the Layer 2 Only field, verify that there is no check in the box so that this option is not enabled.

You do not want the Layer 2 Only option enabled for a Layer 3 network.

- c) Determine if you want to use the default VRF or if you want to create a VRF for this Layer 3 network.
 - If you want to use the default VRF for this Layer 3 network, in the VRF Name field, choose default from the list of VRFs available. Go to 2.d, on page 8.
 - Follow these steps if you want to create a custom VRF for this Layer 3 network:
 - 1. In the VRF Name field, click Create VRF.

The Create VRF page appears.

Change the name for the custom VRF for the Layer 3 network in the **VRF Name** field, if necessary. The entry in the **VRF Name** field is auto-populated but can be changed, if necessary.

2. Click the General Parameters tab and enter the necessary information.

(Optional) Enable the **Enable Auto Peering over SVI Between VPC Aggregations** option if desired, which enables per VRF iBGP or OSPF peering between Aggregation switches. Note that the protocol used is based on the VRF-Lite routing protocol configured in the Fabric setting.

3. Click the Advanced tab and enter the necessary information.

The settings in the **Advanced** area include options for BGP authentication, route maps, and static 0/0 configurations, where you could configure a default (0/0) route towards the core switch.

Click Save to save the custom VRF for the Layer 3 network.

You are returned to the Create Network page.

Once this Layer 3 network is attached in the next step, if the **Enable Auto Peering over SVI Between VPC Aggregations** option is enabled, NDFC will create the configuration for an iBGP peering session or an OSPF neighborship between the Aggregation switches for this new VRF, including the VLAN ID and the IP address for the SVI.

- d) In the **Create Network** screen, enter the necessary information in the remaining fields in the **General Parameters** tab.
 - In the VLAN ID field, enter a value to use for the associated VLAN, or click **Propose VLAN** to have NDFC propose a VLAN ID for your Layer 3 network, based on the available resources (the range is customizable in **Fabric Settings**).
 - Define the gateway IP address in either the IPv4 Gateway/Netmask or the IPv6 Gateway/Netmask fields.

You must define the IPv4 or IPv6 gateway IP address for the Layer 3 network. For these procedures, the gateway is the Aggregation switch within the fabric.

- **Note** For the next two fields in the **General Parameters** tab, note that you will be defining the active and standby devices in a later step in these procedures.
- Define the interface address on the active/master device in either the **Interface IPv4 addr on active** or the **Interface IPv6 addr on active** fields.
- Define the interface address on the standby/backup device in either the **Interface IPv4 addr on standby** or the **Interface IPv6 addr on standby** fields.
- e) In the Create Network screen, click the Advanced tab and enter the necessary information.

Customize the First Hop Redundancy Protocol settings (either HSRP or VRRP, based on the fabric settings) in this page. You can determine which of the Aggregation switches will be used for the active and standby First Hop Redundancy Protocol when you attach the network.

- f) Fill in the remaining fields as necessary for your Layer 3 network.
- g) Click Create.

The Networks page displays the newly created Layer 3 network and accompanying VRF.

| bric Overview - Access-Agg-Fab | | | | | | | | | | |
|--------------------------------|------------------|-----------------|---------------------------------|----------------------|-------------------|---------|-----------------|--|--|--|
| erviev | w Switches Links | Interfaces Inte | erface Groups Policies Networks | VRFs Event Analytics | History Resources | Metrics | | | | |
| Filte | r by attributes | | | | | | Actions ~ | | | |
| | Network Name | VRF Name | IPv4 Gateway/Prefix | IPv6 Gateway/Prefix | Network Status | VLAN ID | Interface Group | | | |
| | MyNetwork_30001 | NA | | | DEPLOYED | 2301 | | | | |
| | Muhlatwark 20000 | | | | DEDLOVED | 2200 | | | | |
| | MyNetwork_30000 | NA | | | DEPLOTED | 2300 | | | | |

Step 3 Add the network to an interface group, if necessary.

Interface groups are useful if you are trying to deploy a network to a group of interfaces.

a) In the **Networks** tab for the Enhanced Classic LAN fabric, click on the Layer 3 network that you just created, then click **Actions** > **Add to Interface Group**.

L

| Fabric | Fabric Overview - Access-Agg-Fab | | | | | | | | | | | | | |
|---------|----------------------------------|------------------------|------------------------|---------------------|----------------------|-------------|---|--|--|--|--|--|--|--|
| Overvie | w Switches Links | Interfaces Interface G | roups Policies Networl | ks VRFs Event Analy | rtics History Resour | ces Metrics | Actions ^ | | | | | | | |
| 8 | Network Name | VRF Name | IPv4 Gateway/Prefix | IPv6 Gateway/Prefix | Network Status | VLAN ID | Create | | | | | | | |
| | MyNetwork_30001 | NA | | | DEPLOYED | 2301 | Edit | | | | | | | |
| | MyNetwork_30000 | NA | | | • DEPLOYED | 2300 | Multi-Attach | | | | | | | |
| | MyNetwork_30003 | MyVRF_50001 | | | • NA | 2303 | Deploy | | | | | | | |
| | MyNetwork_30002 | default | | | DEPLOYED | 2302 | Import | | | | | | | |
| | | | | | | | Export Delete Add to Interface Group Remove from Interface Group | | | | | | | |

b) Select the interface group that you want to add, or click **Create Interface Group** to create a new interface group to add.

Add to Interface Group

| Selected Networks* | | |
|--------------------|---|------------------------|
| 1 network > | | |
| nterface Group* | | |
| IG | ~ | Create Interface Group |

For more detailed procedures on adding a network to an interface group, see Interface Groups in the *Cisco NDFC-Fabric Controller Configuration Guide*.

Step 4 Attach the network.

Once you've created the Layer 3 network, you can attach it to host-facing ports on the Access switch, which will then allow the VLAN on these trunk or access ports and also on the vPC/port channel/standalone ports between the Access and Aggregation switches.

Determine if you want to perform a quick attach or a multi-attach.

- If you want to perform a **quick attach**, where you will attach this network to the selected switches, follow these steps:
- a) In the Networks tab for the Enhanced Classic LAN fabric, double-click on the Layer 3 network that you just created.
- b) Click the Network Attachments tab.

c) Locate the switches with **aggregation** shown in the **Switch Role** column and click the boxes next to those switches.

| Netwo | rk Overview - MyNetv | vork_30000 | | | | | | Actions | O - X |
|---------------------|----------------------|------------|---------------------------|-----------|--------|------------|-------------|---------|------------------------------|
| Overvie Note: Ac | w Network Attachm | eents VRFs | onfigured via aggregation | switches. | | | | | |
| Fill | er by attributes | | | | | | | | Actions ^ |
| | Network Name | VLAN ID | Switch | Ports | Status | Attachment | Switch Role | Fak | History |
| | MyNetwork_30000 | | fabric1-border2 | NA | • NA | Detached | aggregation | Acc | Edit |
| | MyNetwork_30000 | | fabric1-border1 | NA | • NA | Detached | aggregation | Acc | Preview |
| | | | | | | | | | Import Export |
| | | | | | | | | | Quick Attach Quick Detach |

- d) Click Actions > Quick Attach, then go to Step 5, on page 11.
 - If you want to perform a **multi-attach**:
- a) In the **Networks** tab for the Enhanced Classic LAN fabric, click on the Layer 3 network that you just created, then click **Actions** > **Multi-Attach**.

| abric C | overview - Access-Ag | g-Fab | | | | | Actions \checkmark) () ? — \times |
|---------|----------------------|---------------------|----------------------------|---------------------|----------------------|-------------|--|
| verviev | v Switches Links | Interfaces Interfac | ce Groups Policies Network | s VRFs Event Analy | rtics History Resour | ces Metrics | |
| Filte | r by attributes | Actions ^ | | | | | |
| | Network Name | VRF Name | IPv4 Gateway/Prefix | IPv6 Gateway/Prefix | Network Status | VLAN ID | Create |
| | MyNetwork_30001 | NA | | | • NA | 2301 | Edit |
| | MyNetwork_30000 | NA | | | • DEPLOYED | 2300 | Multi-Attach |
| | | | | | | | Multi-Detach |
| | | | | | | | Deploy |
| | | | | | | | Import |
| | | | | | | | Export |
| | | | | | | | Delete |
| | | | | | | | Add to Interface Group |
| | | | | | | | Remove from Interface Group |

- b) Click the box next to each switch that you want to attach to the network, then click Next.
- c) Click the box next to each interface that you want to select, then select the interfaces using either **Bulk Paste** or **View Interfaces**.

| ulti-Attach of Networks | | | | | | - × |
|-------------------------|-----------------|-----------------|------------------|--------------|-------------------|-----------------|
| | (~ |) | | | (3) | |
| | Select S | witches | Select In | terfaces | Summary | |
| Select Interfaces | | | | | | |
| Filter by attributes | | | | | | Bulk Paste |
| | Network Name | Switch Name | Peer Switch Name | ToR Switches | Interfaces List 🕠 | Action |
| 8 | MyNetwork_30001 | fabric1-border1 | fabric1-border2 | Agg1,Agg2 | | View Interfaces |

• If you select Bulk Paste, enter the interfaces to be pasted in the Interfaces List area, then click Save.

- If you select **View Interfaces**, click the boxes next to the specific ports that you want to attach in the following screen, then click **Save**.
- d) In the Select Interfaces window, click Next.
- e) Make the necessary deployment selection in the next window, then click Save.

| lti-Attach of Networks | | | | | $- \times$ |
|--|---------------------------------|-----------------------------|-----------------------------------|--------------------------------------|------------|
| | Select Switches | Select Inte |) | Summary | |
| Summary Networks Selected 1 | Devices Selected | Network Attachments 1 | Device Interface Association 4 | Device Interface De-Association 0 | |
| Deploy Later Proceed to Full Switch Dep Proceed to Individual Netw | loy(Recommended) rork Deploy | | | | |

Step 5 Deploy the network.

In the Network Attachments window, select the networks that you just attached, then click Actions > Deploy.

| Net | worl | c Overview - MyNetw | ork_30000 | | | | | | Actions \checkmark () $ \times$ | |
|-------------|----------------|---------------------|-----------|---------------------------|-----------|---------|------------|-------------|-----------------------------------|--|
| Ove Note | rviev : Acc | v Network Attachme | ents VRFs | onfigured via aggregation | switches. | | | | | |
| | Filte | r by attributes | | | | | | | Actions ^ | |
| | ~ | Network Name | VLAN ID | Switch | Ports | Status | Attachment | Switch Role | Fat History | |
| | | MyNetwork_30000 | 2300 | fabric1-border2 | NA | PENDING | Attached | aggregation | Acc Edit | |
| | | MyNetwork_30000 | 2300 | fabric1-border1 | NA | PENDING | Attached | aggregation | Acc | |
| | | | | | | | | | Import | |
| | | | | | | | | | Export | |
| | | | | | | | | | Quick Attach | |
| | | | | | | | | | Quick Detach | |

Step 6 When the recalculation process is completed, click **Deploy** and verify that the status shown in the **Config Status** column shows as **In-Sync**.

| De | ploy Configuration | - Access-Agg-Fab | | | | | | | | ? | \times |
|----|----------------------|------------------|-----------------|---------------|---------------|-------------|----------------|-------------------------------------|----------|---|----------|
| | Filter by attributes | | | | | | | | | | |
| | Network Name | Fabric Name | Switch Name | Serial Number | IP Address | Role | Network Status | Status Description | Progress | | |
| | MyNetwork_30000 | Access-Agg-Fab | fabric1-border2 | FDO22230TDY | 172.25.65.131 | aggregation | • In-Sync | Config compliance sync completed | | - | _ |
| | MyNetwork_30000 | Access-Agg-Fab | fabric1-border1 | FDO22230BXL | 172.25.65.130 | aggregation | • In-Sync | Config compliance sync completed | | - | |
| | | | | | | | | | | | |

What to do next

Configure the VRF Lite extension using the procedures provided in Configure the VRF Lite Extension, on page 12.

Configure the VRF Lite Extension

In these procedures, you will configure the VRF Lite extension between the Aggregation and Core switches. NDFC supports either automatic or manual configuration modes for VRF Lite between the Aggregation and Core switches. For this use case, we will configure VRF Lite using the automatic configuration.

You can go through the configurations in this section whether you have a three-tier topology or a two-tier (Collapsed Core) topology. However, in order to be able to configure the VRF Lite extension, you must have created a custom VRF for the Layer 3 network in Create a Layer 3 Network, on page 6, rather than using a default VRF.

Step 1 Verify that the necessary default configurations in the **Resources** page are set correctly for VRF Lite.

a) In NDFC, navigate to LAN > Fabrics, if you are not there already.

A page showing all of the configured fabrics appears.

 b) Double-click the Enhanced Classic LAN fabric that you created using the procedures provided in Configure the Enhanced Classic LAN Fabric.

The Fabric Overview page for that fabric appears.

c) Click Actions > Edit Fabric.

The Edit Fabric page appears.

- d) Click the **Resources** tab.
- e) Verify that the necessary default configurations in the **Resources** page are set correctly for VRF Lite.
 - In the Agg-Core/Agg-Edge Connectivity field, verify that the Auto option is set.

The Aggregation-Core peering protocol that will be used is based on the setting that you entered in the **Routing Protocol** field in Configure the Enhanced Classic LAN Fabric.

Check the box in the Auto Generate VRF Lite Configuration on Agg and Core/Edge field to enable this
option.

- If the Routing Protocol field is set to ebgp and you are using the Cisco Nexus 7000 or 9000 Series switches, or the Cisco Catalyst 9000 series switches for the Core layer, enabling the Auto Generate VRF Lite Configuration on Agg and Core/Edge option automatically generates the VRF Lite configuration on the Aggregation and Core switches.
- If the **Routing Protocol** field is set to **ospf** and you are using the Cisco Nexus 7000 or 9000 Series switches for the Core layer, enabling the **Auto Generate VRF Lite Configuration on Agg and Core/Edge** option automatically generates the VRF Lite configuration on the Aggregation and Core switches.
- In other cases, such as using Cisco ASR 9000 Series Aggregation Service Routers as the Core Router or Edge Router, then the VRF Lite intent and configurations will not be automatically generated on the Core Router or Edge Router. Instead, for each VRF, you must manually create a policy using the necessary policy.

Edit Fabric : Access-Agg-Fab

| ahric Name | |
|--|---|
| Access-Agg-Fab | |
| ick Fabric | |
| nhanced Classic LAN > | • |
| General Parameters Spanning Tree VPC Protocols | Advanced Resources Manageability Bootstrap Configuration Backup Flow Monitor |
| Network VLAN Range | |
| 2300-2999 | Per Switch Network VLAN Range (Min:2, Max:4094) |
| Agg-Core/Agg-Edge Connectivity | |
| Auto | VRF Lite Agg-Core and Agg-Edge Router Inter-Fabric Connection Options |
| VRF Lite Subinterface dot1q Range | |
| 2-511 | Per Agg dottq Range for VRF Lite Connectivity (Min:2, Max:4093) |
| Auto Generate VRF Lite Configuration on Agg and Core/Edg | PE Flag that controls auto generation of VRF LITE sub-interface and peering |
| | configuration on Agg & Core/Edge devices. If set, auto created VRF Lite links will have 'Auto Generate Flag' enabled. |
| VRF Lite IP Version | |
| IPv4_only ~ | Choice of IPv4, IPv6 or both. |

Step 2 Verify that the links between the Aggregation and Core switches have the correct templates attached and the proper settings applied.

a) Navigate back to the Fabric Overview page for the Enhanced Classic LAN fabric.

The **Overview** page for that fabric appears.

- b) Click the Links tab.
- c) Locate the links from the Aggregation switches to the Core switches in this page.

For example, you would have two Aggregation switches and one Core switch for this use case, so you would therefore locate these two links in this page:

- The link between the first Aggregation switch and the Core switch
- The link between the second Aggregation switch and the Core switch

d) Click on the box next to the link between the first Aggregation switch and the Core switch, then click Actions > Edit.

| ric O | verview - Access-Ag | g-Fab | | | | | | | | I | Actions 🗸 💍 | ? — |
|--------|------------------------------|------------|---------------------|------------|------------|------|-----------------|---------|--------------|-------------|-------------|----------------|
| rview | Switches Links | Interfaces | Interface Groups | Policies | Networks | VRFs | Event Analytics | History | Resources | Metrics | | |
| inks | Protocol View | | | | | | | | | | | |
| Policy | == ext_fabric_setup \times | | | | | | | | | | Edit Clear | All |
| ۲ | Fabric Name | Name | | | | | Policy | | Info | Admin State | Oper | Create Stat |
| | Access-Agg-Fab← >Core-Fab | fabric1-b | oorder1~Ethernet1/9 | -xbow2~Eth | nernet1/15 | | ext_fabric_se | tup | Link Present | ↑ Up | (↑ u | Delete |
| | Access-Agg-Fab← >Core-Fab | fabric1-b | oorder2~Ethernet1/9 | -xbow2~Eth | hernet1/16 | | ext_fabric_se | tup | Link Present | ↑ Up | ↑ U | Export |
| | Access-Agg-Fab← >Core-Fab | fabric1-b | oorder2~Ethernet1/8 | -xbow1~Eth | nernet5/13 | | ext_fabric_se | tup | Link Present | ↑ Up | ↑ U | 2 |
| | Assess Ass Esh/ | | | | | | | | | | | |

The Link Management - Edit Link page appears for this link.

Link Management - Edit Link : LINK-UUID-4160

- e) Verify that VRF_LITE is automatically selected in the Link Sub-Type field.
- f) Verify that all of the remaining parameters are automatically populated correctly, such as the source and destination fabrics, devices, and interfaces.

| Inter-Fabric | | | |
|---|--------|--|--|
| ₋ink Sub-Type* | | | |
| VRF_LITE | \sim | | |
| Link Template* | | | |
| ext fabric setup > | | | |
| exclubile_setup y | | | |
| O a surge a F a la mila | | Destination Fabric | |
| Source Fabric | | Destination Fabric | |
| Source Fabric Access-Agg-Fab | | Destination Fabric Core-Fab | |
| Source Fabric Access-Agg-Fab Source Device* | | Destination Fabric Core-Fab Destination Device* | |
| Source Fabric Access-Agg-Fab Source Device* fabric1-border1 | | Destination Fabric Core-Fab Destination Device* xbow2 | |
| Source Fabric Access-Agg-Fab Source Device* fabric1-border1 Source Interface* | | Destination Fabric Core-Fab Destination Device* xbow2 Destination Interface* | |

g) (Optional) Repeat these steps for the remaining links from the Aggregation switches to the Core switches in this page, if you want additional verification.

For example, since we have two Aggregation switches in this use case, you would click the link between the second Aggregation switch and the Core switch in this page, then repeat these steps to verify that the links between the second Aggregation switch and the Core switch have the correct templates attached and the proper settings applied.

History

Edit

Preview Deploy

Import Export Quick Attach Quick Detach



Step 7 In the **Edit VRF Attachment** page, make the necessary configurations to extend the VRF attachments using VRF Lite to attach the Aggregation switches to the Core switche.

Status

O DEPLOYED

O DEPLOYED

Attachment

Attached

Attached

Switch Role

aggregation

aggregation

• Flip the switch to **Attach** at the top of the page.

Note: Access switches are not directly displayed, but are configured via aggregation switches

Switch

fabric1-border2

fabric1-border1

VLAN ID

2000

2000

- In the Extend field, choose the VRF_LITE option.
- · Click Attach-All.

Filter by attributes

VRF Name

default

default

 $? - \times$

| Edit VRF | Attachment | - default |
|----------|------------|----------------|
| | / | or or or other |

| Detach C Attach | |
|--|---|
| VLAN* | |
| 2000 | |
| Extend* | |
| VRF_LITE X ~ | |
| fabric1-border2(FDO22230TDY) | fabric1-border1(FDO22230BXL) |
| CLI Freeform Config | CLI Freeform Config |
| Edit > | Edit > |
| All configs should strictly match the 'show run' output, including o Any mismatches will yield unexpected diffs during deploy | ases and new line All configs should strictly match the 'show run' output, including cases and new line Any mismatches will yield unexpected diffs during deploy |
| SVI IPv4 Address/Netmask | SVI IPv4 Address/Netmask |
| | |
| VPC Peer SVI IPv4 Address | VPC Peer SVI IPv4 Address |
| | |
| SVI IPv6 Address/Netmask | SVI IPv6 Address/Netmask |
| | |
| VPC Peer SVI IPv6 Address | VPC Peer SVI IPv6 Address |
| | |
| Extension | |
| Elles hu ellshulee | |

Click **Save** once you have completed the necessary configurations in the **Edit VRF Attachment** page. You are returned to the **VRF Attachments** page.

Step 8 Deploy the configuration using either of the two methods described below.

• In the VRF Attachments page, select the two VRF attachments and click Actions > Deploy.

| VRF | Ove | erview - defau | lt | | | | Actions ~ | Refresh — X |
|------|-------|------------------|------------------|---|---------|------------|-------------|--|
| Ovei | viev | W VRF Attack | ments Netw | orks | | | | |
| Note | Filte | ess switches are | not directly dis | Jayed, but are configured via aggregation switches. | | | | Actions ^ |
| | ~ | VRF Name | VLAN ID | Switch | Status | Attachment | Switch Role | History |
| | | default | 2000 | fabric1-border2 | PENDING | Attached | aggregation | Edit Previev |
| | | default | 2000 | fabric1-border1 | PENDING | Attached | aggregation | Deploy |
| | | | | | | | | Import Export Quick Attach Quick Detach |

- In the **Fabric Overview** page for the Enhanced Classic LAN fabric, click the **Switches** tab and click the boxes next to the two Aggregation switches, then click **Actions** > **Deploy**.
- Step 9If you created a External Connectivity Network fabric for the core tier using the procedures in Configure the External
Connectivity Network Fabric, navigate back to LAN > Fabrics and double-click on the External Connectivity Network
fabric.

You must perform the same operations on the External Connectivity Network fabric to enable the pending configurations for VRF Lite to also be pushed to the Core switches.

Step 10 In the **Fabric Overview** page for the External Connectivity Network fabric, click the **Switches** tab and click the box next to the Core switch, then click **Actions** > **Deploy**.

| ric O | verview - Co | re-Fab | | | | | | | | Actions V O ? — |
|--------|---------------|------------------|----------------|-----------------|---------|---------------|-------------|------------------|-----------|------------------------------------|
| rview | Switches | Links Interfaces | Policies | Event Analytics | History | Resources Met | rics | | | |
| Filter | by attributes | | | | | | | | | Actions |
| ~ | Switch | IP Address | Role | Serial Number | Mode | Config Status | Oper Status | Discovery Status | Model | Add Switches Preview |
| ~ | xbow1 | | Core Router | | Normal | Pending | ♥ Healthy | Ook | N77-C7706 | Deploy Discovery |
| ~ | xbow2 | | Core Router | | Normal | Pending | ♥ Healthy | OK | N77-C7702 | Set Role vPC Pairing |
| | | | | | | | | | | ToR/Access Pairing vPC Overview |
| | | | | | | | | | | More |

Step 11 Preview the configuration updates as the deployment process progresses.

You can click on the blue link in the **Pending Config** column to get additional information on the changes that are being configured for the Core switch.

Pending Config - Core-Fab - xbow2

| Pending Config Side-by-Side Comparison | |
|---|---|
| <pre>interface ethernet1/16.2 no vrf member myvrf_50001 interface ethernet1/15.2 no vrf member myvrf_50001 router bgp 65011 neighbor 10.33.0.5 remote-as 65535 address-family ipv4 unicast send-community both exit neighbor 10.33.0.9 remote-as 65535 address-family ipv4 unicast send-community both exit vit</pre> | Ŧ |
| <pre>vrf myvrf_50001 address-family ipv4 unicast neighbor 10.33.0.5 remote-as 65535 address-family ipv4 unicast send-community both exit exit neighbor 10.33.0.9</pre> | |

Step 12 When the recalculation process is completed, click **Deploy All** and verify that the status shown in the **Config Status** column shows as **In-Sync**.

I

| Fa | abric Overview - Access-Agg-Fab Action | | | | | | | | | | | $ \times$ |
|--|--|-----------------|------------|-------------|---------------|--------|---------------|-------------|------------------|-----------------|-----------|-----------|
| Overview Switches Links Interfaces Interface Groups Policies Networks VRFs Event Analytics History Resources Metrics | | | | | | | | | | | | |
| | Filter | r by attributes | | | | | | | | | A | Actions ~ |
| | | Switch | IP Address | Role | Serial Number | Mode | Config Status | Oper Status | Discovery Status | Model | VPC Role | VPC Peei |
| | | Agg1 | | Access | - | Normal | In-Sync | ♥ Minor | O OK | N9K-C93180YC-EX | Primary | Agg2 |
| | | Agg2 | | Access | | Normal | In-Sync | V Minor | O OK | N9K-C93180YC-EX | Secondary | Agg1 |
| | | fabric1-border1 | | Aggregation | | Normal | In-Sync | ♥ Minor | Ok | N9K-C93180YC-EX | Primary | fabric1-b |
| | | fabric1-border2 | | Aggregation | | Normal | In-Sync | V Minor | O OK | N9K-C93180YC-EX | Secondary | fabric1-b |

Day 1 Configurations